

Listing of Claims

The following listing of claims will replace all prior versions, and listings, of claims in the subject application:

1. (currently amended) A metal vapor discharge lamp comprising:

a refractory and light-transmitting hermetic vessel;

a pair of electrode fixed to said hermetic vessel;

a discharge medium sealed in the hermetic vessel, the discharge medium containing a halide, a rare gas and substantially disusing mercury, the halide containing a halide of cesium (Cs) which radiates light of near-infrared wavelengths (750-1100 nm); and

most of light irradiated from the metal vapor discharge lamp having near-infrared wavelengths (750 - 1100 nm).

Claim 2 (canceled).

3. (original) The metal vapor discharge lamp according to claim 1, further comprising a visible-light blocking filter.

4. (original) The metal vapor discharge lamp according to claim 1, wherein a wattage rating of the metal vapor discharge lamp is 100 W or less.

5. (original) The metal vapor discharge lamp according to claim 1, wherein a distance between the pair of electrodes falls within a range of 1 mm to 6 mm.

6. (previously presented) A metal vapor discharge lamp comprising:

a refractory and light-transmitting hermetic vessel;

a pair of electrode fixed to said hermetic vessel;  
a discharge medium sealed in the hermetic vessel, the discharge medium containing a first halide and a rare gas, the first halide containing a halide of at least one of sodium (Na), scandium (Sc) and a rare earth metal which radiate visible light (380 - 780 nm), the discharge medium substantially disusing mercury;

a ratio of visible-radiation power (380 - 780 nm) to near-infrared radiation power (750 - 1100nm) falling within a range of 0.5 : 1 to 4.0 : 1, the visible-radiation power and the near-infrared radiation power being output when the metal vapor discharge lamp is in an ON state; and

a visible-light blocking filter.

7. (previously presented) The metal vapor discharge lamp according to claim 6, wherein the discharge medium includes:

a second halide which generates a relatively high vapor pressure and being a halide of at least one metal which emits a visible light less than that emitted by the metal of the first halide; and

a third halide containing a halide of at least one metal which radiates near-infrared light.

8. (original) The metal vapor discharge lamp according to claim 6, wherein the discharge medium contains a halide of at least one of potassium (K), cesium (Cs) and rubidium (Rb) which radiate light of near-infrared wavelengths (750 -1100 nm).

Claim 9 (canceled).

10. (original) The metal vapor discharge lamp according to claim 6, wherein a wattage rating of the metal vapor discharge

lamp is 100 W or less.

11. (original) The metal vapor discharge lamp according to claim 6, wherein a distance between the pair of electrodes falls within a range of 1 mm to 6 mm.

12. (original) The metal vapor discharge lamp according to claim 6, wherein the rare gas is Xe, Xe of five atoms or more being sealed in the hermetic vessel.

13. (original) A projector comprising:  
a reflector;  
a metal vapor discharge lamp as specified in any one of claims 1 to 12, the metal vapor discharge lamp being provided on the reflector; and  
a light control member covering a front surface of the reflector.

14. (original) The projector according to claim 13, wherein the projector is installed in a vehicle and used as a headlamp.

15. (original) The projector according to claim 14, further comprising visible-light blocking means for blocking visible light and passing near-infrared light therethrough in a high beam mode, and means for removing the visible-light blocking means from a radiation direction of the metal vapor discharge lamp in a low beam mode.

16. (original) The projector according to claim 13, further comprising a visible-light blocking filter provided on at least one of front and rear surfaces of the light control member.

17. (original) The projector according to claim 16, wherein the projector is installed in a vehicle and used as a headlamp.

18. (original) The projector according to claim 17, wherein the visible-light blocking filter blocks visible light and passes near-infrared light therethrough in a high beam mode, and further comprising means for removing the visible-light blocking filter from a radiation direction of the metal vapor discharge lamp in a low beam mode.

19. (original) A metal vapor discharge lamp lighting device comprising:

a metal vapor discharge lamp as specified in any one of claims 1 to 12; and

a lighting circuit which supplies a current three times or more a rated lamp current after the metal vapor discharge lamp is lit, and reduces the current with a lapse of time.